

11. (Once amended) The process in accordance with claim 10 wherein the alkyl group [substituent] has 3 [or more] to 5 carbon atoms.

12. (Once amended) The process in accordance with claim [11] 10 wherein the bulky ligand is one or more cyclopentadienyl [derived] ligands, wherein one of the cyclopentadienyl [derived] ligands is substituted with at least one alkyl having 3 or 4 [more] carbon atoms.

a1 13. (Once amended) The process in accordance with claim [12] 10 wherein the bulky ligands are two cyclopentadienyl rings [derived ligands] each substituted with at least one alkyl group [substituent] having 3 to 10 [or more] carbon atoms.

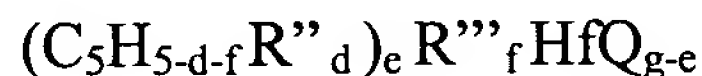
14. (Once amended) The process in accordance with claim 11 [10] wherein the alkyl group [substituent] is selected from one or more of the group consisting of n-propyl, isopropyl, n-butyl, isobutyl and n-pentyl.

Please cancel claim 15 in its entirety.

Subst a2 21. (Once amended) A continuous gas phase process for polymerizing olefin(s) in a fluidized bed gas phase reactor in the presence of a catalyst system to produce a polymer product, the catalyst system comprising a bulky ligand hafnium transition metal metallocene-type catalyst compound having at least one bulky ligand substituted with [a substituent] an alkyl group having 3 to 10 [or more] carbon atoms, and the polymer product comprising less than 2 ppm hafnium.

Please cancel claim 24 in its entirety.

16 27. (Once amended) The process in accordance in accordance with claim 21 wherein the catalyst system is represented by the formula:



93 wherein  $(C_5H_{5-d-f}R''_d)$  is an unsubstituted or substituted cyclopentadienyl ligand bonded to Hf, wherein at least one  $(C_5H_{5-d-f}R''_d)$  is substituted with at least one  $R''$  which is an alkyl group selected from the group consisting of n-propyl, isopropyl, isobutyl and n-pentyl, [substituent having 3 or more carbon atoms] each additional  $R''$ , which can be the same or different is hydrogen or a substituted or unsubstituted hydrocarbyl having from 1

to 30 carbon atoms or combinations thereof or two or more carbon atoms are joined together to form a part of a substituted or unsubstituted ring or ring system having 4 to 30 carbon atoms, R''' is one or more or a combination of the group consisting of carbon, germanium, silicon, phosphorous and nitrogen atoms containing radical bridging two (C<sub>5</sub>H<sub>5-d-f</sub>R''<sub>d</sub>) rings, or bridging one (C<sub>5</sub>H<sub>5-d-f</sub>R''<sub>d</sub>) ring to Hf; each Q which can be the same or different is selected from the group consisting of a hydride, substituted and unsubstituted hydrocarbyl having from 1 to 30 carbon atoms, halogen, alkoxides, aryloxides, amides, phosphides and combination thereof; two Q's together form an alkylidene ligand or cyclometallated hydrocarbyl ligand or other divalent anionic chelating ligand; where g is an integer corresponding to the formal oxidation state of Hf, d is 0, 1, 2, 3, 4, or 5, f is 0 <sup>or 1</sup> and e is 1, 2, or 3, and the polymer product has a melt index less than 0.1 dg/min without the addition of hydrogen to the process.

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In 83  
A3  
28. (Once amended) A continuous slurry phase process for polymerizing olefin(s) in the presence of a catalyst system to produce a polymer product in a liquid polymerization medium, the catalyst system comprising a bulky ligand hafnium transition metal metallocene-type catalyst compound having at least one bulky ligand substituted with [a substituent] at least one alkyl group having from 3 to 10 [or more] carbon atoms, and the polymer product comprising less than 2 ppm hafnium.

Claim 32, line 6, between R'' and the word "is" please insert the word ---which---

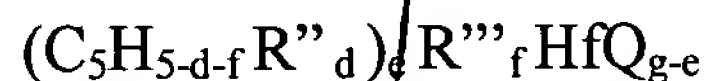
Claim 32, line 6, please delete the words "or more" and substitute therefor, ---to 10---

Please add the following new claims:

Sub B5  
A4  
C  
S  
D  
Claim 51. (New) The process in accordance with claim 12 wherein the alkyl group has 3 carbon atoms.

Claim 52. (New) A process for polymerizing olefin(s) in the presence of a catalyst system comprising a hafnium transition metal metallocene ~~type~~ catalyst having at least one cyclopentadienyl ring substituted with at least one alkyl group selected from group consisting of n-propyl, isopropyl, isobutyl and n-pentyl, and an activator.

C Claim 53 (New) A continuous gas phase process for polymerizing olefin(s) in a fluidized bed gas phase reactor in the presence of a catalyst system to produce a polymer product, the catalyst system comprising a bulky ligand hafnium transition metal metallocene<sup>type</sup> catalyst represented by the formula:



SK  
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wherein  $(C_5H_{5-d-f}R''_d)$  is an unsubstituted or substituted cyclopentadienyl ligand bonded to Hf, wherein at least one  $(C_5H_{5-d-f}R''_d)$  is substituted with at least one  $R''$  which is an alkyl group selected from the group consisting of n-propyl, isopropyl, isobutyl and n-pentyl, each additional  $R''$ , which can be the same or different is hydrogen or a substituted or unsubstituted hydrocarbyl having from 1 to 30 carbon atoms or combinations thereof or two or more carbon atoms are joined together to form a part of a substituted or unsubstituted ring or ring system having 4 to 30 carbon atoms,  $R'''$  is one or more or a combination of the group consisting of carbon, germanium, silicon, phosphorous and nitrogen atoms containing radical bridging two  $(C_5H_{5-d-f}R''_d)$  rings, or bridging one  $(C_5H_{5-d-f}R''_d)$  ring to Hf; each Q which can be the same or different is selected from the group consisting of a hydride, substituted and unsubstituted hydrocarbyl having from 1 to 30 carbon atoms, halogen, alkoxides, aryloxides, amides, phosphides and combination thereof; two Q's together form an alkylidene ligand or cyclometallated hydrocarbyl ligand or other divalent anionic chelating ligand; where g is an integer corresponding to the formal oxidation state of Hf, d is 0, 1, 2, 3, 4, or 5, f is 0 or 1, and e is 1, 2, or 3, and the polymer product has a melt index less than 10 dg/min without the addition of hydrogen to the process.   
LASTM 0-1238- F or ASTM 0-1238-E

#### REMARKS

Reconsideration of the above-identified application in view of the above amendments and remarks following is respectfully requested.

Claims 10 – 14, 16 – 23, 25 – 32 and 51 - 53 are now before the examiner.

Claims 15 and 24 have been cancelled.

New claims 51 – 53 have been added.

Claims 10 – 14, 21, 27, 28 and 32 have been amended.